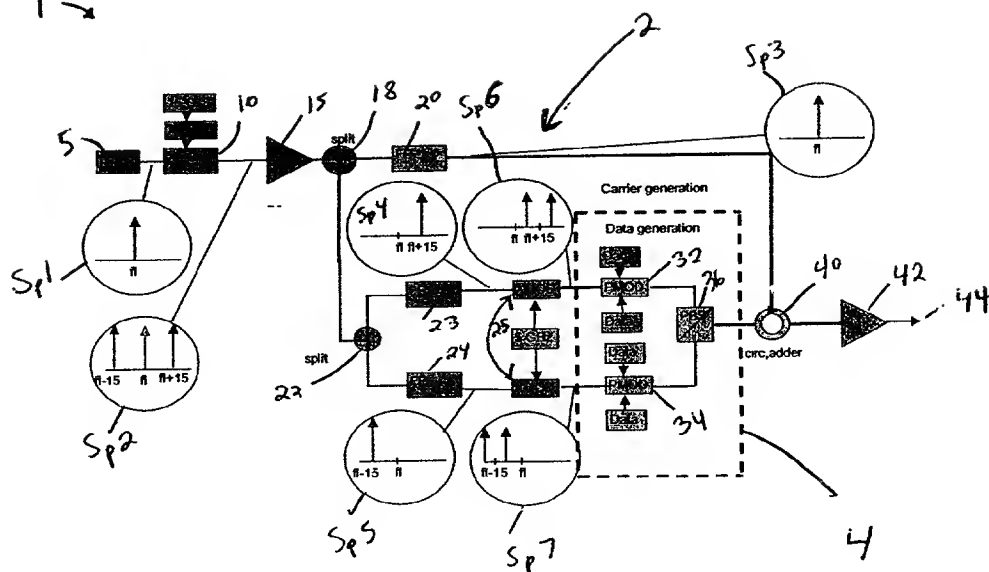




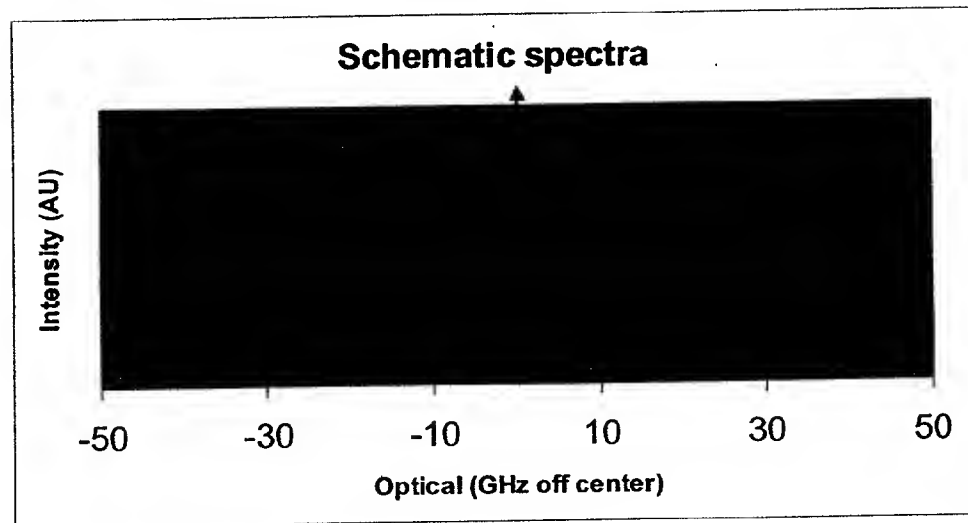
FIG. 1



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FIG. 2

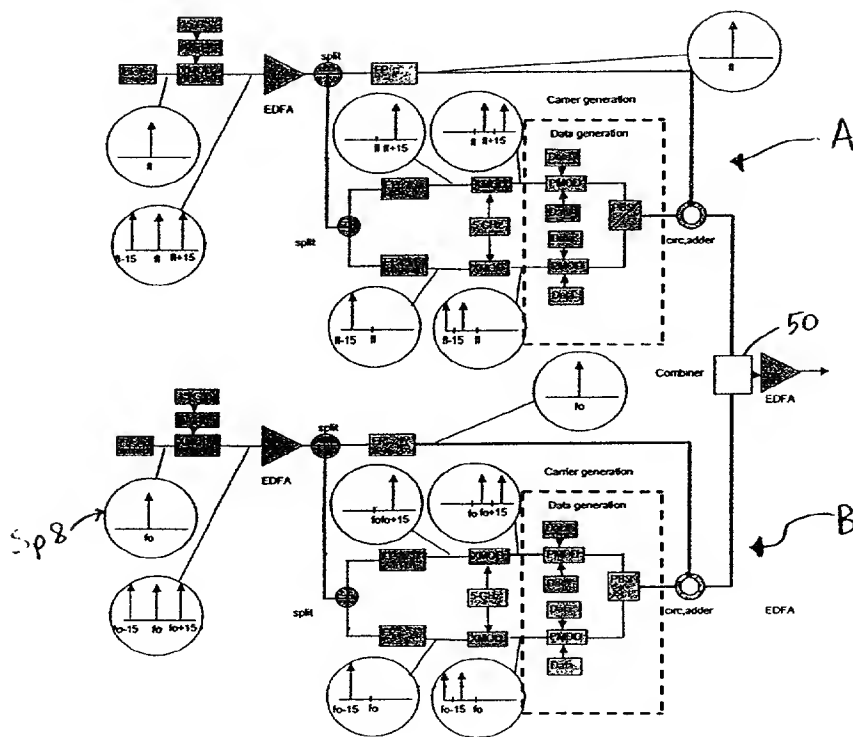


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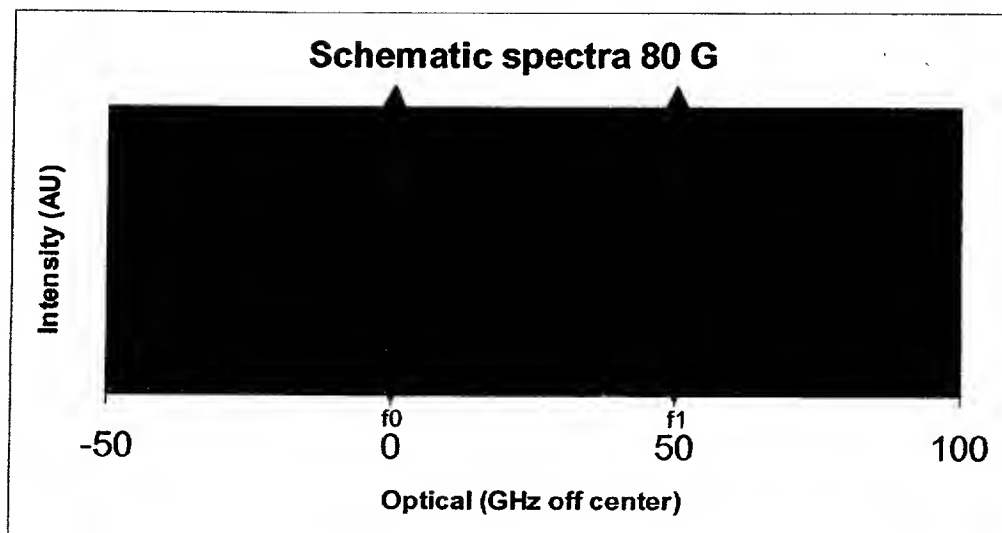
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FIG. 3



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FIG. 4



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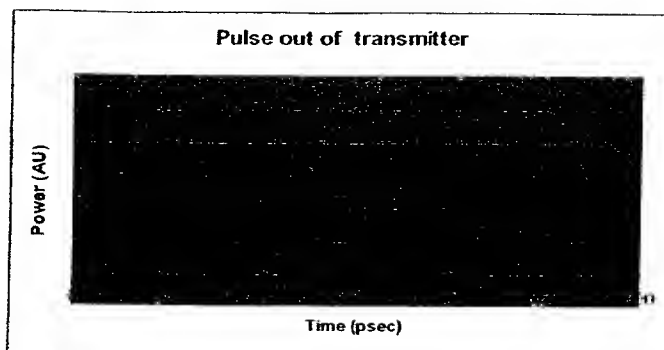


FIG. 5A

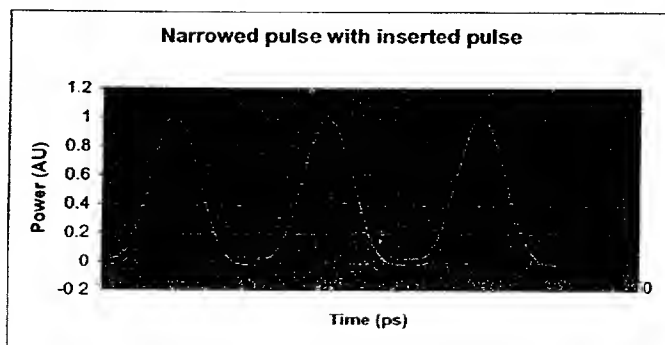


FIG. 5B

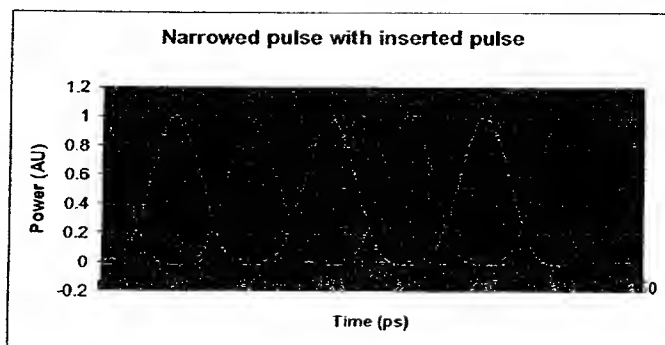
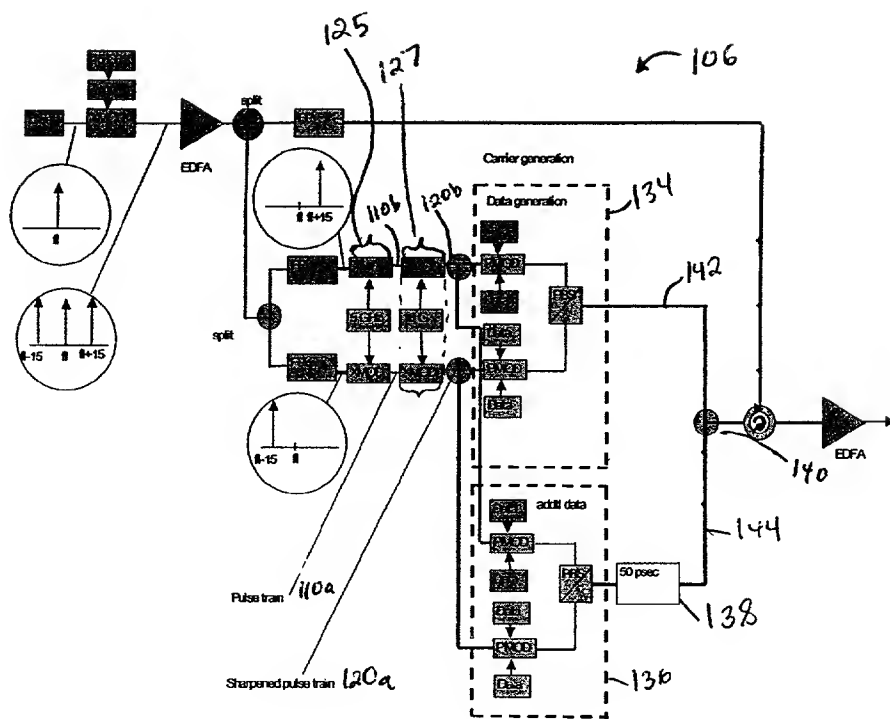


FIG. 5C



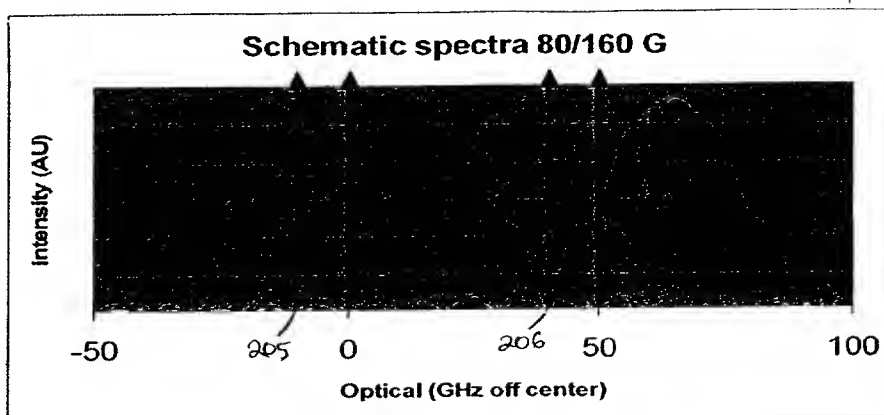
FIG. 6



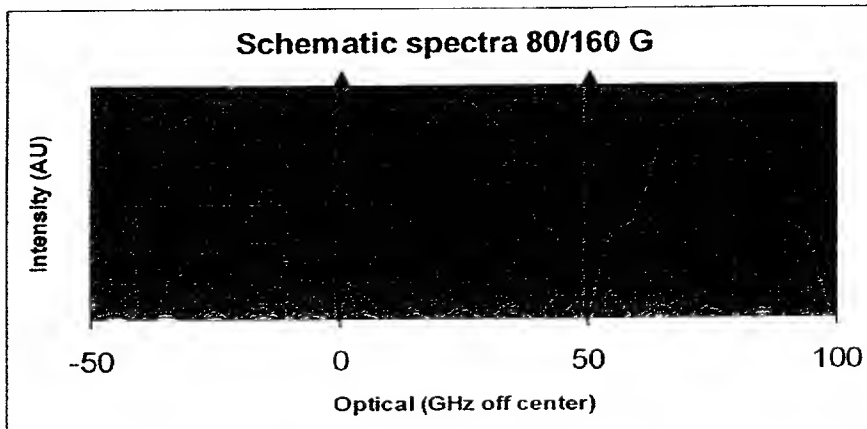
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76.7A

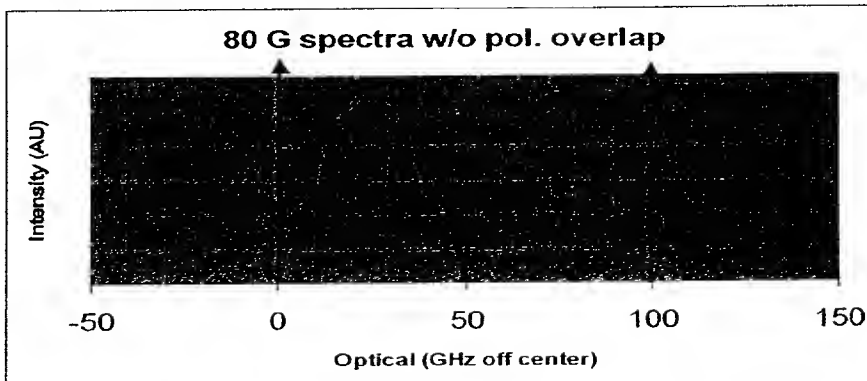


76.7B



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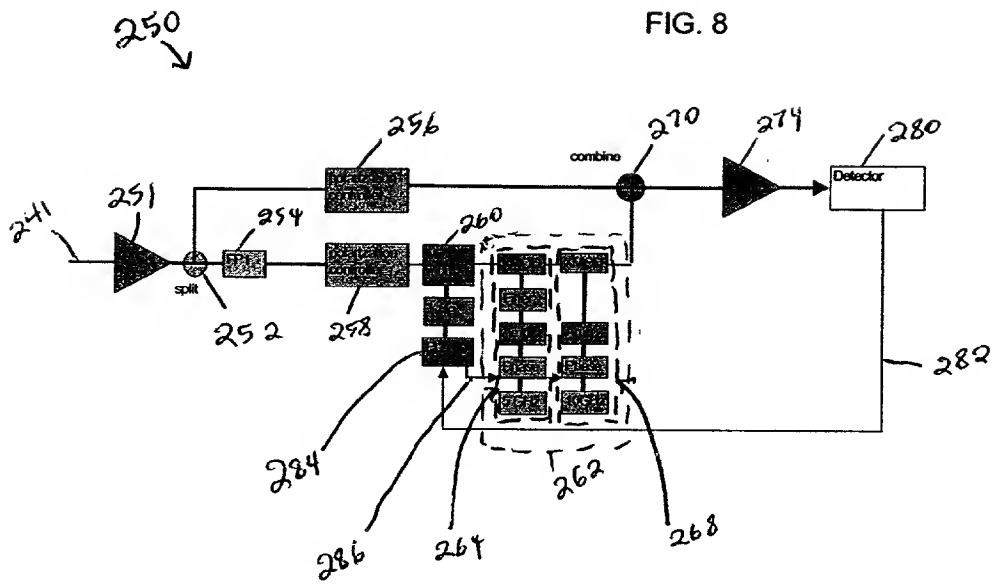
76.7C



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FIG. 8



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FIG. 9

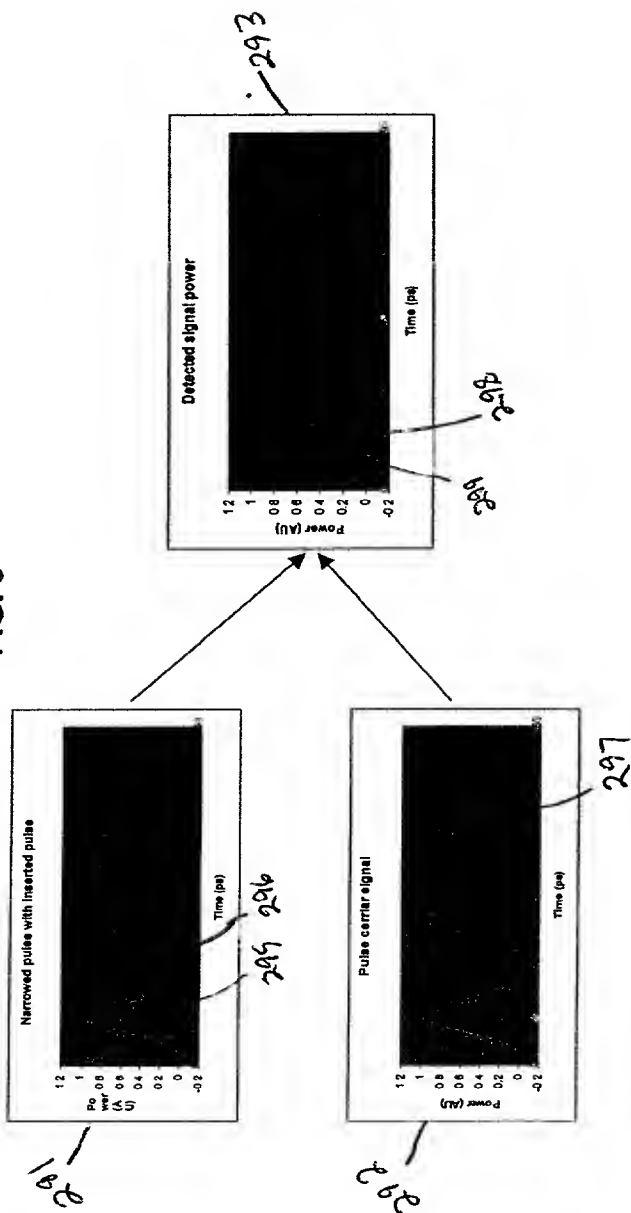
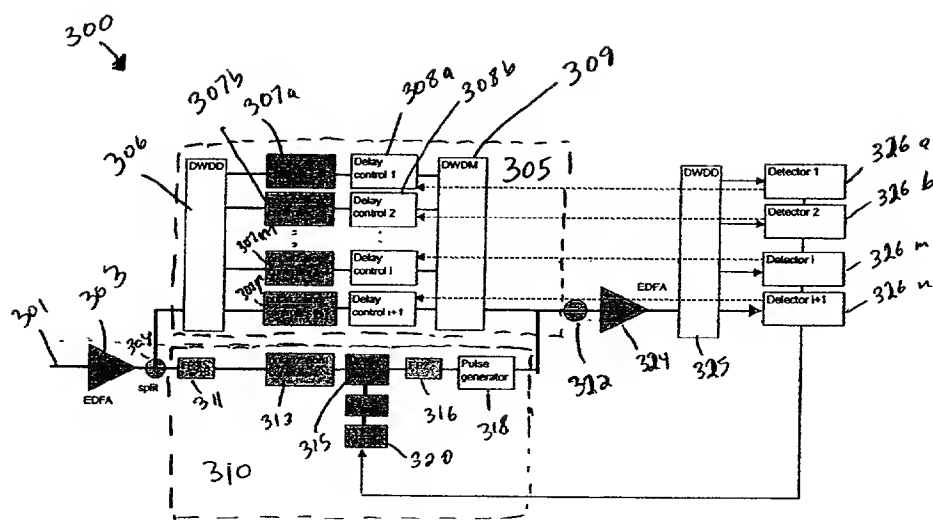




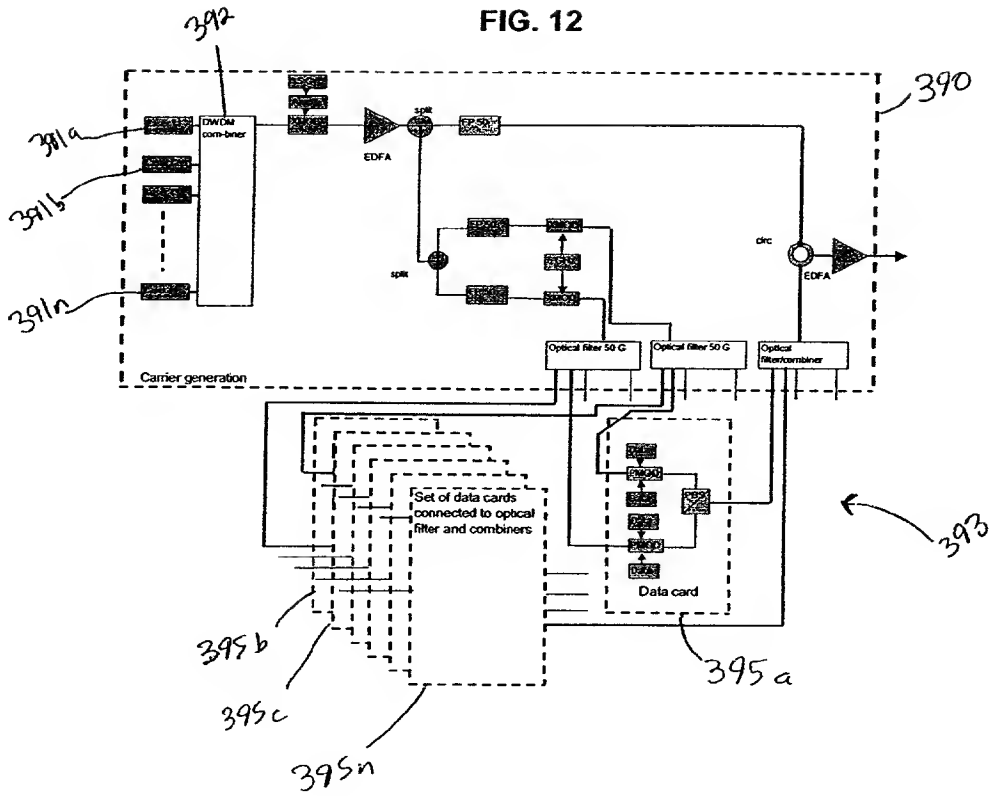
FIG. 10



A circular stamp from the OIPE Patent & Trademark Office. The text "OIPE" is at the top, "JCI02" is on the right, "AUG 19 2002" is in the center, and "PATENT & TRADEMARK OFFICE" is at the bottom.



FIG. 12



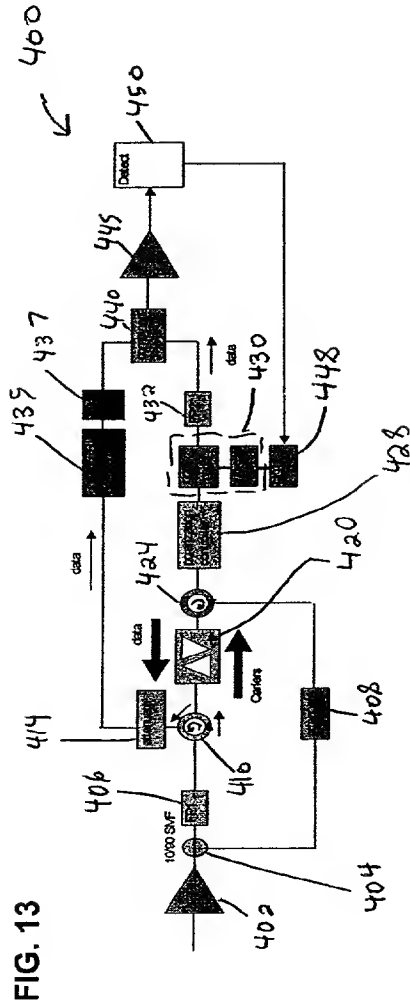




FIG. 14A

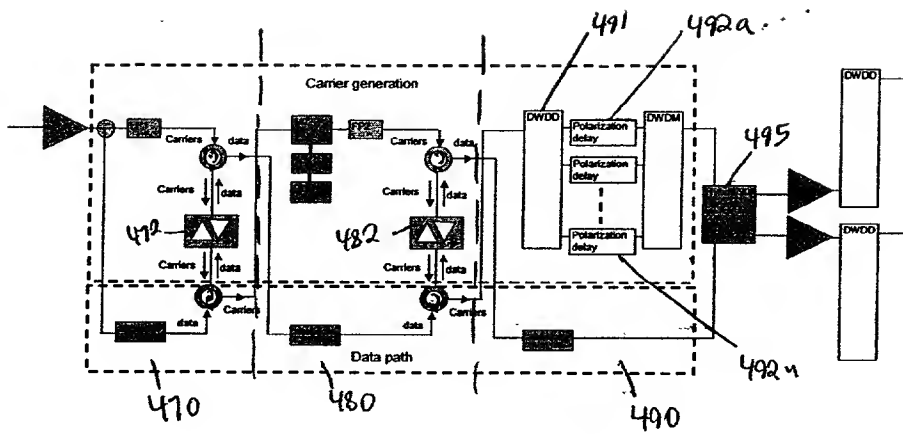
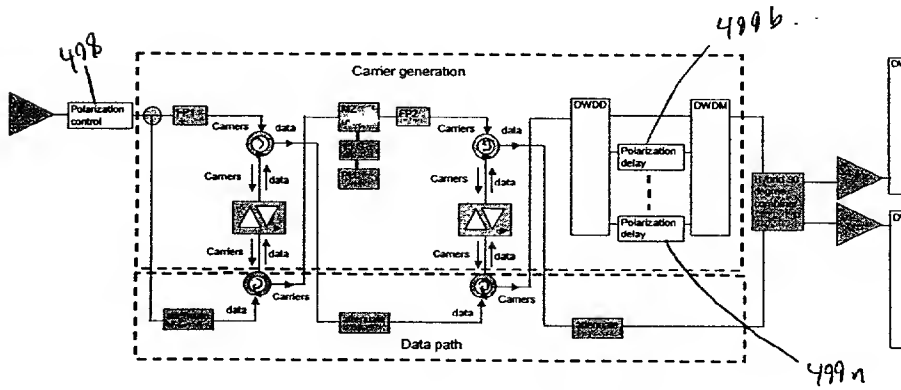


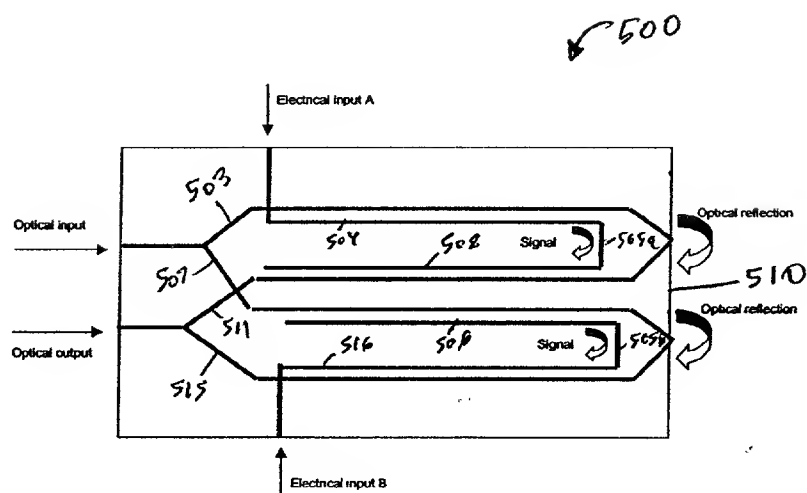
FIG. 14B



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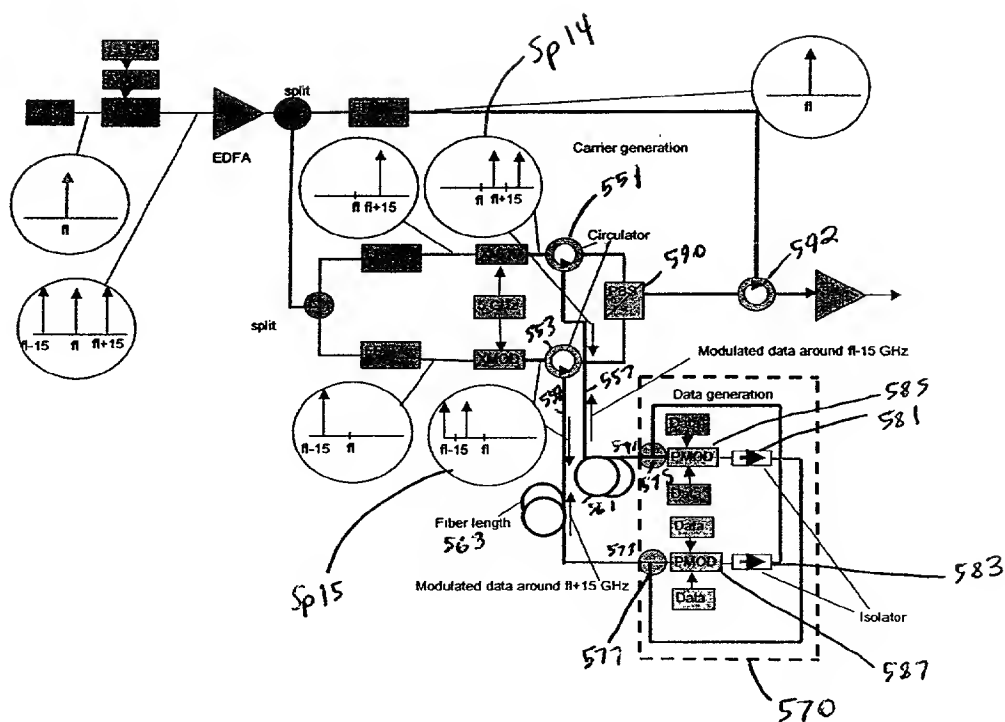
FIG. 15





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FIG. 16



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Figure 1 is a block diagram of a dual-channel optical transmission system. The system starts with two input signals, one centered at frequency f and the other at $f+15$. These are combined and amplified by an EDFA. The signal is then split into two paths. The upper path is modulated around $f+15$ GHz, and the lower path is modulated around $f-15$ GHz. Both paths pass through 90-degree phase shifters and are then combined. The resulting signal is amplified by another EDFA. The final output is a modulated data signal around $f-15$ GHz. A detailed view of the 'Data generation card' shows two modulators, M1 and M2, driven by a 10 GHz source. M1 modulates the signal around $f+15$ GHz, and M2 modulates it around $f-15$ GHz. The modulated signals are then combined and amplified.



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FIG. 18A

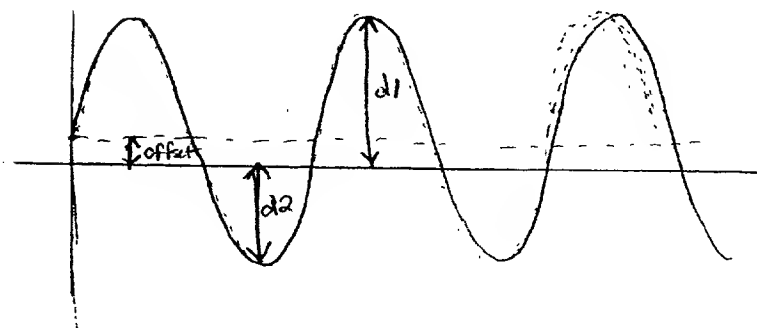
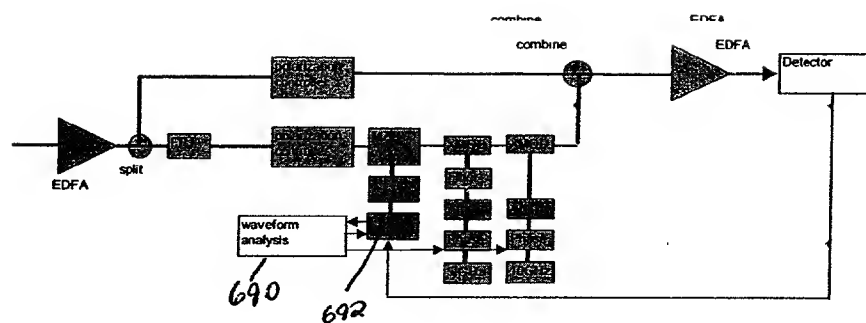


FIG. 18B



FIG. 19

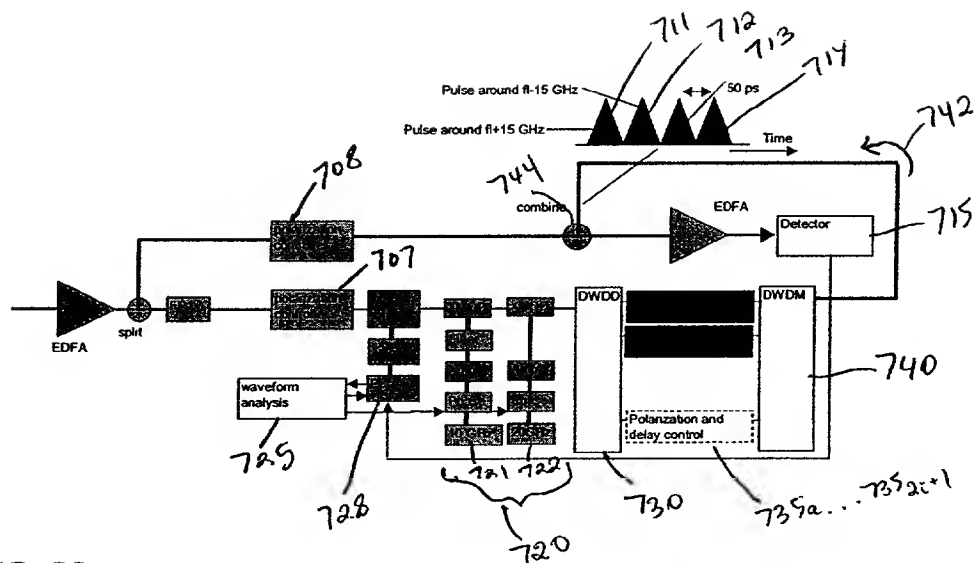


FIG. 20

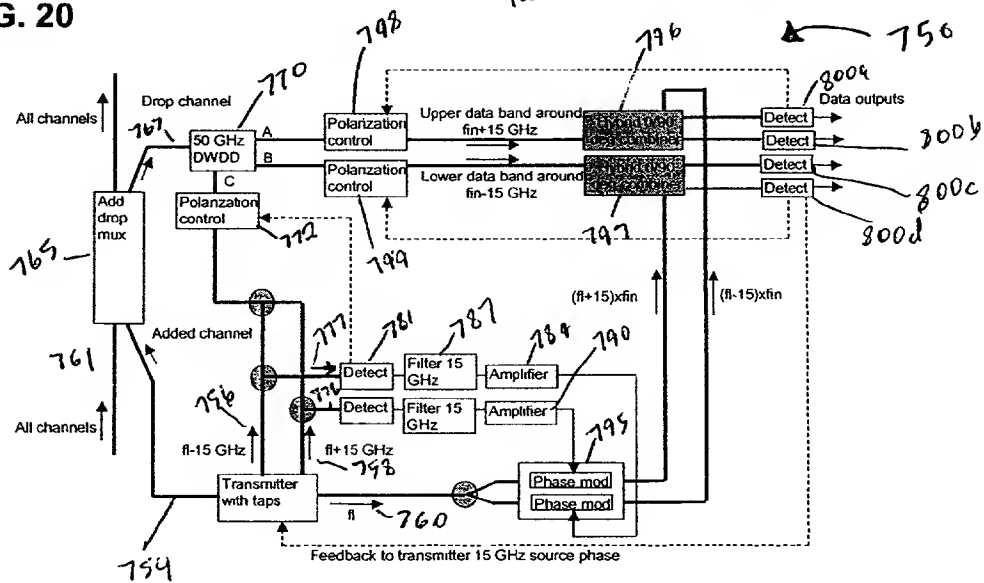
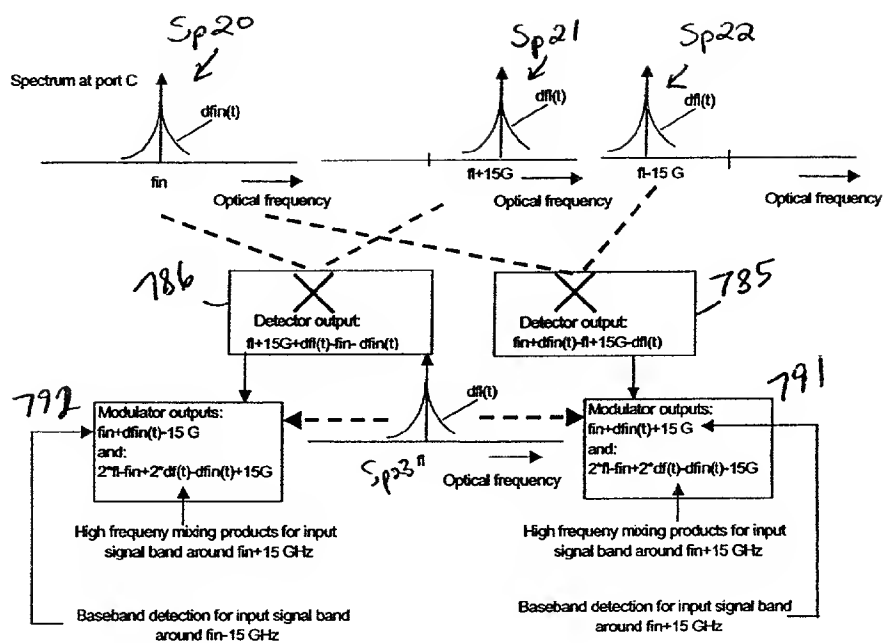




FIG. 21





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FIG. 22

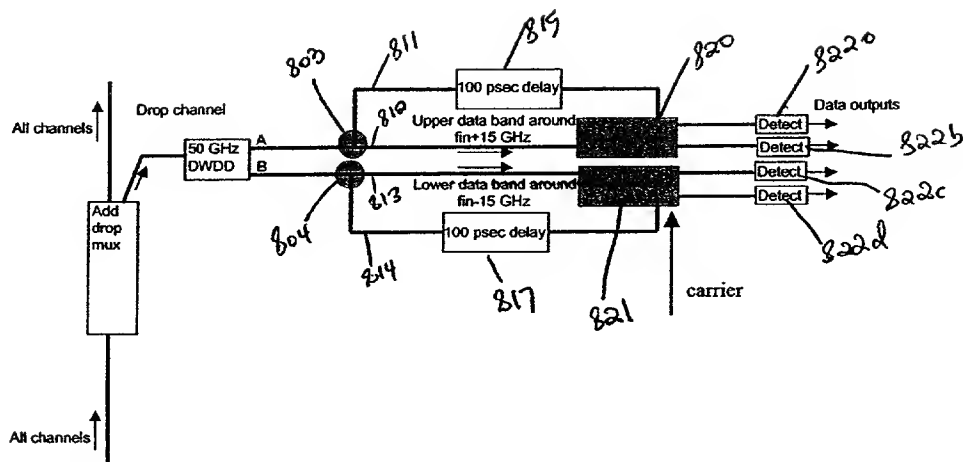


FIG. 23

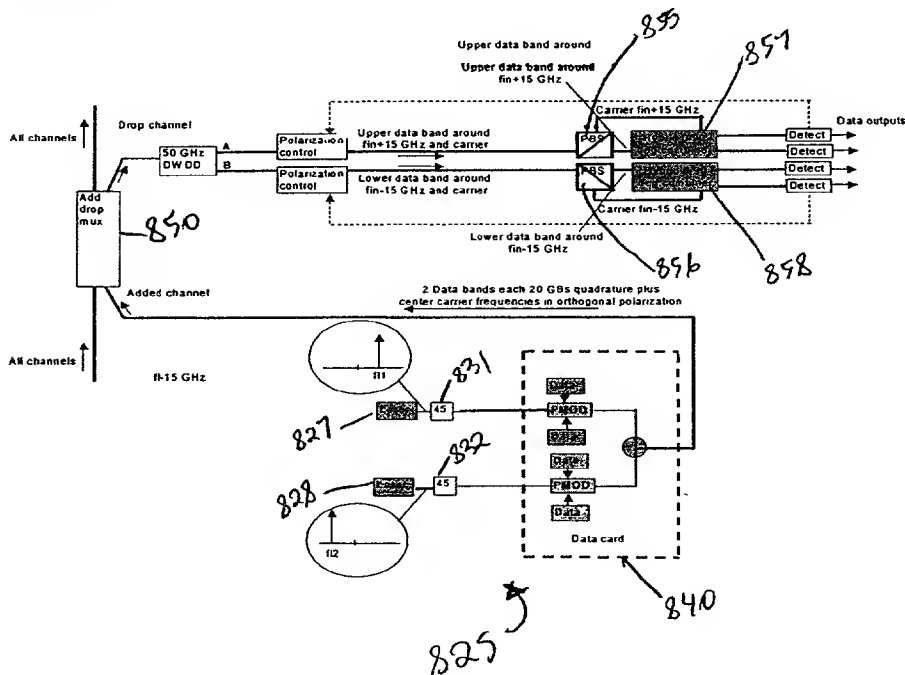
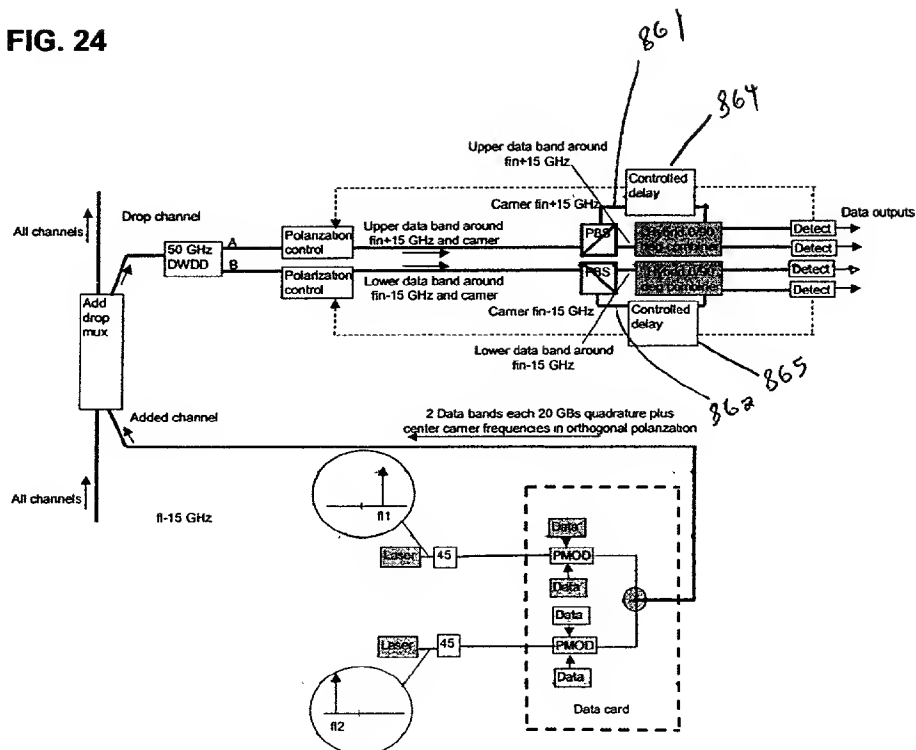




FIG. 24





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FIG. 25A

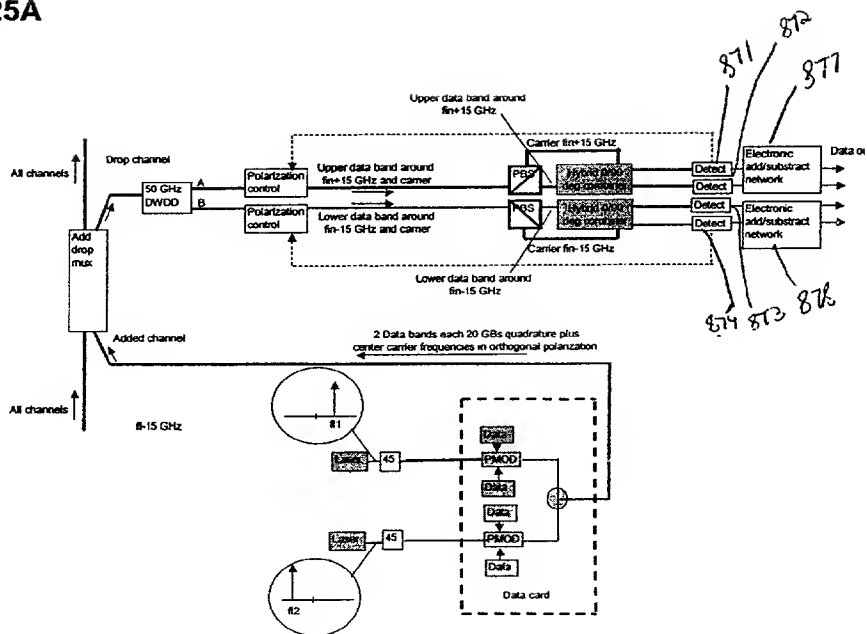
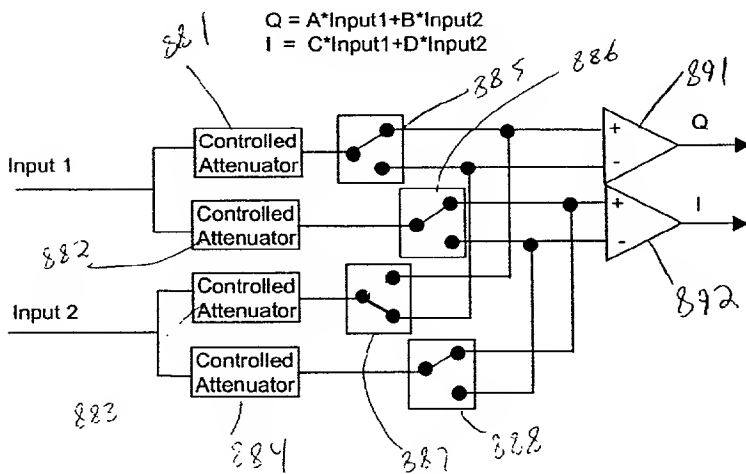


FIG. 25B





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FIG. 26A

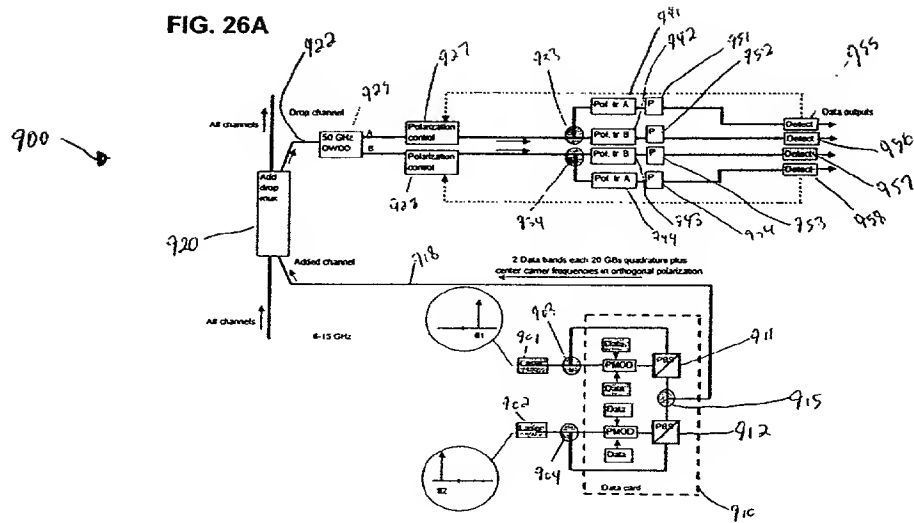
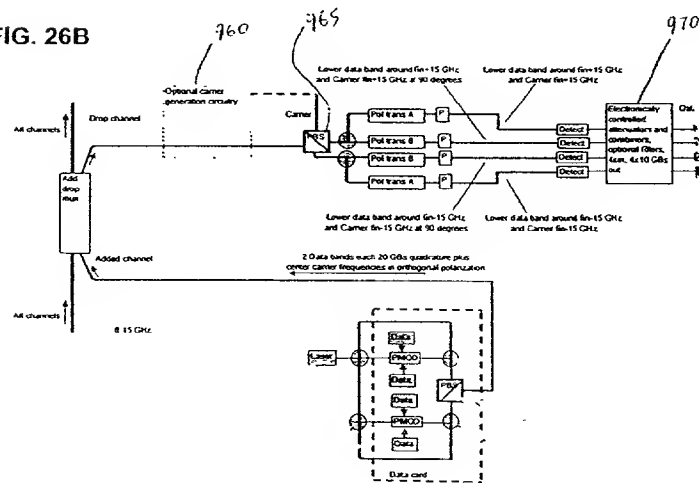


FIG. 26B





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FIG. 27

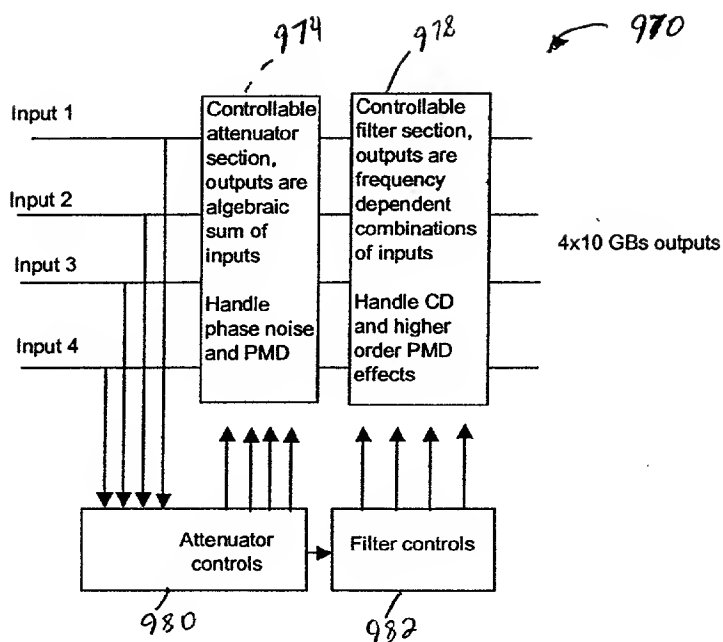
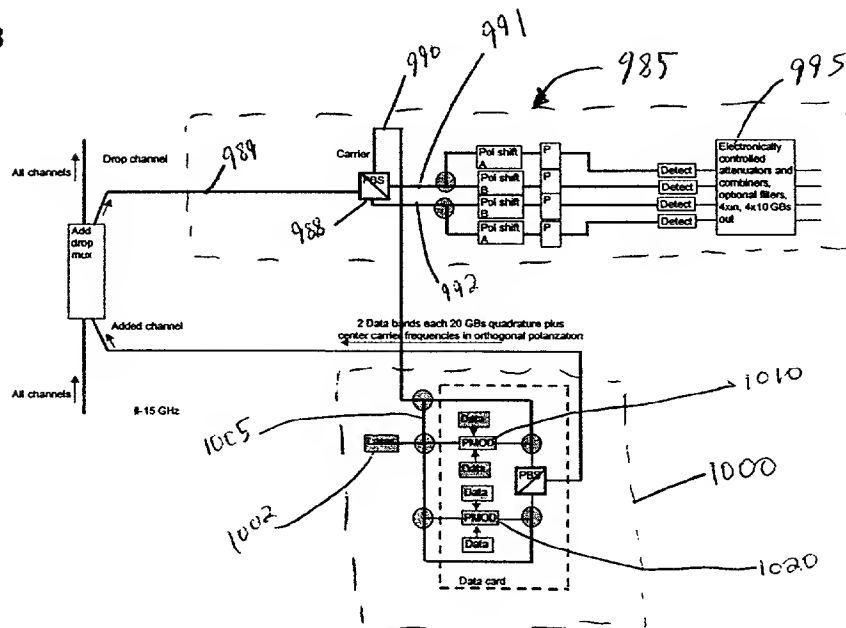


FIG. 28



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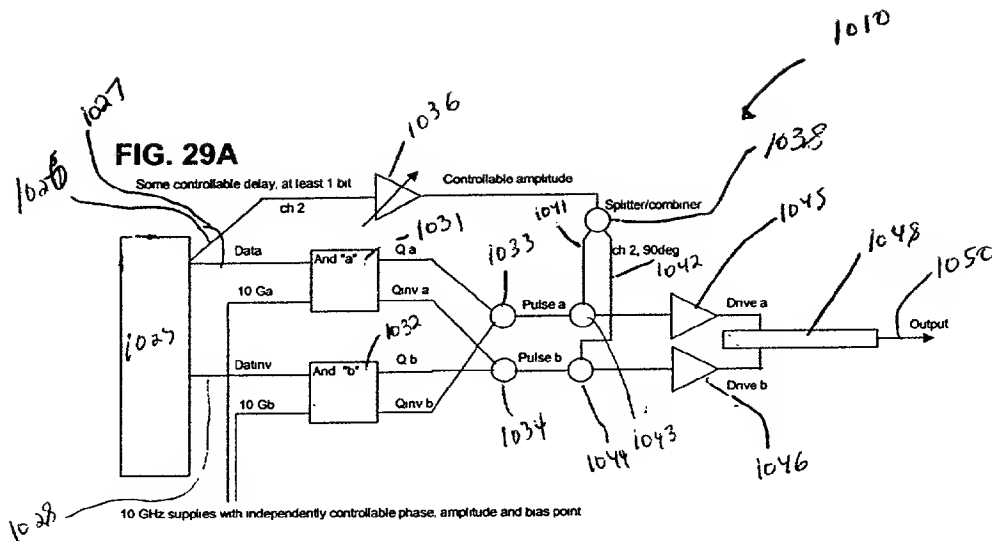
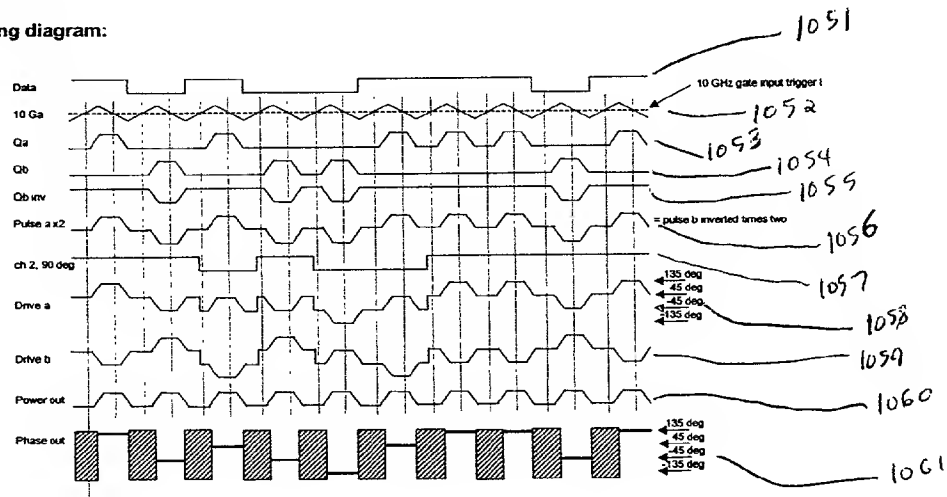


FIG. 29B

Timing diagram:





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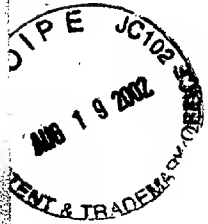


FIG. 30

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